

COPD in Non-Smokers in South Asia: An Under Estimated and Unrecognized Condition

Rano Mal Piryani^{1*}, Suneel Piryani²

COPD is an acronym used for chronic obstructive pulmonary disease. Globally, it is one of the leading causes of morbidity and mortality³. It is among the significant causes of death in the developing countries of the world too³. A major established causal risk factor for COPD is tobacco smoking^{1,2}.

Worldwide, COPD has also been reported in non-smokers; its early evidence was documented in 1958 in the literature². According to the latest global figures, around 30% of all COPD cases occur in people whom never smoked⁴. In lower and middle-income countries, it is reported that about 35% of non-smokers are mainly due to long-term exposure to indoor smoke³.

The documented risk factors in non-smokers are exposure to air pollution (both indoor and outdoor), exposure to dust and fumes (mainly occupational), and recurrent lower respiratory tract infections during childhood, pulmonary tuberculosis, HIV/AIDS, asthma, intrauterine growth retardation, malnutrition and poverty².

COPD in non-smokers is highly prevalent in women in lower middle-income countries likely due to higher exposure to indoor air pollution. It is detected in an older age group, and comorbidities are seen more in these patients^{3,4}.

In countries of South Asia, non-smoker women are at increased risk of developing COPD, likely due to indoor pollution, especially exposure to biomass gas and solid fuels (wood, coal, animal dung) used for cooking as a primary fuel source. The risk is comparably higher in women residing in rural areas than urban^{3,5}. Malnutrition, poverty and tuberculosis are highly prevalent in South Asia, and many people are exposed to dust while working to earn a livelihood³. Malnutrition, poverty, tuberculosis, and dust exposure are documented risk factors for developing COPD in non-smokers⁴.

Even though all the risk factors for developing COPD

in non-smokers are highly prevalent in South Asian countries, COPD in non-smokers in South Asia remains an under-estimated and unrecognized condition as people in these countries, especially in rural areas consider cough, wheeze and sputum production as normal phenomenon and not reporting to healthcare providers and healthcare providers may not be aware of such high prevalence of COPD in non-smokers or may not be paying due attention to risk factors of COPD in non-smokers, thinking COPD occur primarily in smokers. It is essential to educate healthcare providers, patients and communities about the prevalence of COPD in non-smokers to take preventive measures and detect and treat the disease as soon as possible as COPD is preventable and treatable.

REFERENCES

1. Saied ZH, Abd El Hakim MAE, Refaat N. Chronic obstructive pulmonary disease in non-smokers: role of oxidative stress. *Egypt J Bronchol.* 2021; 15(1): 1-6. doi: 10.1186/s43168-021-00088-5.
2. Alvarado A. Chronic obstructive pulmonary disease in non-smokers: An Update. *Clin Res Trials.* 2018; 4(2): 1-8. doi: 10.15761/CRT.1000216.
3. Shetty BSP, D'Souza G, Anand MP. Effect of Indoor Air Pollution on Chronic Obstructive Pulmonary Disease (COPD) Deaths in Southern Asia - A Systematic Review and Meta-analysis. *Toxics* 2021; 9 (85). doi: 10.3390/toxics9040085.
4. García CR, Ruano-Ravina A, Rios MP, Gisbert LM, Varela-Lema L, Candal-Pedreira C et al. Clinical characteristics of chronic obstructive pulmonary disease in never-smokers: A systematic review. *Respir Med.* 2023; 214: 107284. doi: 10.1016/j.rmed. 2023.107284. Epub 2023 May 19.
5. Jarhyan P, Hutchinson A, Khaw D, Prabhakaran D, Mohan S. Prevalence of chronic obstructive pulmonary disease and chronic bronchitis in eight countries: a systematic review and meta-analysis. *Bull World Health Organ.* 2022; 100(3): 216-230. doi: 10.2471/BLT.21.286870. Epub 2022 Jan 19.

*¹Bilawal Medical College, Liaquat University of Medical and Health Sciences, Jamshoro, Sindh-Pakistan.

²Public Health Professional, Karachi, Sindh-Pakistan.

Correspondence: Email: rano.piryani@gmail.com
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